



# The 2<sup>nd</sup> International Neuroinflammation Congress and 2<sup>nd</sup> Student Festival of Neuroscience

Shefa Neuroscience Research Center, Tehran, Iran, 17-19 April, 2018

*The Neuroscience Journal of Shefaye Khatam*

Volume 6, No. 2, Suppl 1

## Poster Presentation

### The Relationship between the TNF $\alpha$ of the Microglia Cells and the Parkinson Disease

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**Published: 17 April, 2018**

#### Abstract

TNF $\alpha$  is one of the inflammatory cytokines which plays an important role in activating the Caspase and inducing the apoptosis. This cytokine which is secreted in inflammations, induces the NO production in macrophages and leads to differentiation of the macrophages to the epithelioid and giant cells. One of the most important factors which stimulates the TNF $\alpha$  secretion, is LPS and that antigen (LPS) is the mitogen of the Ti-1 in the B lymphocytes and as a result, many of macrophages such as microglia cells proliferate. Microglia is the smallest non-neuronal cells in the CNS and responds to the inflammations in the CNS. One of the factors in developing the Parkinson disease is TNF $\alpha$  which is secreted of the microglia cells and destroys the dopaminergic neurons in substantia nigra. In Parkinson disease, microglia cells leave the resting form and achieve the plastic amoeboid morphology (In the resting form, microglia cells have homeostatic roles and eliminate the neurotoxins and dead cells). Finally, the levels of the Caspase 3 and 8 increase and the condition is prepared for the apoptosis of the neuron and in both chronic and acute forms, the levels of the TNF $\alpha$  increase in the cerebrospinal fluid (CSF).

**Keywords:** TNF $\alpha$ , Parkinson, Microglia Cells

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